

Appln. No.: 09/388,351

Appeal Brief dated April 30, 2004



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of:

**Erik J. SNAPPER, *et al.***

Serial No.: 09/388,351

Filed: September 1, 1999

For: System and Method for Populating  
Forms with Previously Used Data  
Values

Atty. Docket No.: 003797.77746

Group Art Unit: 2176

Examiner: William L. Bashore

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**APPEAL BRIEF**

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Sir:

This is an Appeal Brief in accordance with 37 C.F.R. § 1.192, filed in triplicate in support of appellants' March 1, 2004 Notice of Appeal. Appeal is taken from the Final Office Action mailed November 28, 2003. Please charge any necessary fees in connection with this Appeal Brief to our Deposit Account No. 19-0733.

**REAL PARTY IN INTEREST**

The owner of this application, and the real party in interest, is Microsoft Corporation.

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals and/or interferences.

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### **STATUS OF CLAIMS**

Claims 3-28 and 31-55 are pending. Claims 1-2 and 29-30 were canceled in an amendment dated June 16, 2003. Claims 3-28 and 31-55 stand rejected as follows:

- Claims 3-4, 6-7, 9-15, 21-22, 24, 26-28, 31, 33-34, 36-44, 46-47, and 50-54 stand rejected under § 103(a) as being unpatentable over Kikinis (U.S. Patent 5,794,259) in view of Light et al. (U.S. Patent 6,192,380).
- Claims 5, 23, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light and further in view of Gupta et al. (U.S. Patent 6,199,079).
- Claims 8, 25, and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light, and further in view of applicants' specification.
- Claims 16-17, 19-20, 48-49, and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Light in view of Capps (U.S. Patent No. 5,666,502).
- Claim 18 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Light et al. in view of Capps, and further in view of Applicants' specification.
- Claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light et al. and further in view of Capps.

The Appellants hereby appeal the rejection of claims all pending claims 3-28 and 31-55. The appealed claims are presented in the attached appendix.

### **STATUS OF AMENDMENTS**

There are no unentered amendments.

## **SUMMARY OF INVENTION**

In making reference herein to various portions of the specification and drawings in order to explain the claimed invention (as required by 37 C.F.R. § 1.192(c)(5)), Appellants do not intend to limit the claims; all references to the specification and drawings are illustrative unless otherwise explicitly stated.

The present invention provides a method and apparatus for learning data values from a user over time as the user enters values into fields on a form such as a web page form. Page 4, lines 12-14. An Internet web browser may include code that suggests previously used data values for any form text field that is the same as or similar to a previously used form text field. *Id.* at lines 14-16. This feature can take advantage of the fact that web page authors frequently use the same or similar names for fields when prompting for the same information (e.g., “phone” when requesting a telephone number). Any browser-based application program (or any form retrieved from a web site using the browser) can gain limited access to previously used field values without compromising security or privacy. *Id.* at lines 16-22.

In one embodiment, software in a web browser associates field names across different Universal Resource Locators (URLs), so that when a user enters a value into a field (e.g., username) at a first web site, that same value can be automatically suggested when the user displays a different form on a different web site that uses the same field name. The more web sites that are visited by the user, the more the software learns field values and is able to suggest likely choices for field values. For security reasons, field values are preferably not stored in the

application program or on the target web site, but are instead stored locally on the client computer or at a trusted web site known to the browser. *Id.* at lines 23-30.

Some embodiments of the invention prevent web sites from surreptitiously discovering suggested values by forcing the user to initiate some action (e.g., hitting a key or clicking a mouse) before a data value for a field is suggested, and by only writing data into the field when the user has selected one of the suggested values. Certain field values (e.g., passwords and credit card numbers) can be treated differently for even more security. Page 5, lines 1-5.

Heuristics can be used to identify and suggest values for fields. For example, a “most frequently used” value for a particular field can be suggested as a first choice rather than the last used value. Additionally, synonyms can be provided to correlate similar field names (e.g., “name,” “username,” “your name,” etc.) across different forms. Bayesian inference functions can also be used to help match previously entered data values across different field names. *Id.* at lines 6-10.

The principles of the invention can also be used to share data across browser-compatible applications. For example, the user of a newly created application that requires entry of a zip code could automatically be provided with a suggested zip code that was previously used with a totally different application weeks earlier, even though the newly created application had no knowledge or special code to handle previously entered values. *Id.* at lines 11-15.

The invention can also be made compatible with the existing vCard schema standard, such that standard fields in that schema (e.g., vCard.Email) are correlated with fields on different forms. Previously used form field values can be stored in a protected storage area to protect them from snooping. In one embodiment, previously used field values can be can stored at a

predetermined trusted web site, such that a user could access the previously used values even when using a different computer (e.g., a home computer instead of the office computer). *Id.* at lines 16-22.

## **ISSUES**

1. Whether claims 3-4, 6-7, 9-15, 21-22, 24, 26-28, 31, 33-34, 36-44, 46-47, and 50-54 are patentable pursuant to 35 U.S.C. § 103(a) over Kikinis (U.S. Patent 5,794,259) in view of Light et al. (U.S. Patent 6,192,380).
2. Whether claims 5, 23, and 32 are patentable pursuant to 35 U.S.C. § 103(a) over Kikinis in view of Light and further in view of Gupta et al. (U.S. Patent 6,199,079).
3. Whether claims 8, 25, and 35 are patentable pursuant to 35 U.S.C. § 103(a) over Kikinis in view of Light, and further in view of Appellants' specification.
4. Whether claims 16-17, 19-20, 48-49, and 55 are patentable pursuant to 35 U.S.C. § 103(a) over Light in view of Capps (U.S. Patent No. 5,666,502).
5. Whether claim 18 is patentable pursuant to 35 U.S.C § 103(a) over Light et al. in view of Capps, and further in view of Appellants' specification.
6. Whether claim 45 is patentable pursuant to 35 U.S.C § 103(a) over Kikinis in view of Light et al. and further in view of Capps.

### **GROUPING OF CLAIMS**

The Appellants respectfully assert that each of the claims stands or falls on its own merits rather than as grouped in the rejections. However, in accordance with 37 C.F.R. § 1.192(c)(7) and with respect to arguments set forth herein, the Appellants provide the following groups of claims as standing or falling together:

1. Claims 4, 9, 10, 12, 15, 21, 26, 27, 28, 36, 37, 39, 42, 44
2. Claims 3, 22, and 31
3. Claims 13 and 40
4. Claims 14 and 41
5. Claim 43
6. Claim 54
7. Claims 46, 50 and 52
8. Claims 47, 51 and 53
9. Claims 6, 7, 24, 33, 34
10. Claims 11, 38
11. Claims 5, 23, 32
12. Claim 8, 25, 35
13. Claim 16, 19
14. Claim 17
15. Claim 20
16. Claim 48
17. Claim 49

- 18. Claim 55
- 19. Claim 18
- 20. Claim 45

## **ARGUMENT**

### ***Issue 1***

Claims 3, 13-14, 21-22, 31, 40-41, 43, 46-47, and 50-54 stand rejected under § 103(a) as being unpatentable over Kikinis (U.S. Patent 5,794,259) in view of Light et al. (U.S. Patent 6,192,380) (hereinafter Light). This rejection is improper for the following reasons.

With respect to all claims rejected under a combination of Kikinis and Light, the examiner has not established a *prima facie* case of obviousness because the examiner has not provided a motivation or suggestion to combine the two references. The examiner merely states that it would have been obvious to combine the references because “it clearly would have increased the efficiency of filling out the form to have field values remembered the next time the user encountered the form, and because the field identifier would have assisted in locating the data the next time it was needed, and the data value entered in the form would have been needed to fill out the form the next time it was presented. Therefore, it would have been obvious to one of ordinary skill in the art to have extended Kikinis to implement step (3)” (Office Action of 11/28/03, p. 4, emphasis in original). However, the examiner’s statement is that of a result of the combination, not a motivation to combine the references in the first place. The examiner has not identified a motivation or suggestion in the references themselves, nor within the level of

knowledge of one of ordinary skill in the art, to combine the two references. This is classic impermissible hindsight reasoning.

The Federal Circuit has repeatedly stated that the limitations of a claim in a pending application cannot be used as a blueprint to piece together prior art in hindsight, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999), and that the Patent Office should rigorously apply the requirement that a teaching or motivation to combine prior art references needs to be provided. *Id.* Thus, because the examiner has not identified a proper motivation or suggestion to combine Kikinis and Light, the examiner has not established a *prima facie* case of obviousness, and the claims rejected under Issue 1 are allowable.

Deficiencies of the rejection with respect to individual claims even if the references are combined are discussed below.

Claims 4, 9, 10, 12, 15, 21, 26, 27, 28, 36, 37, 39, 42, 44

Claim 21 recites, *inter alia*, “comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user...” The Office Action states that Kikinis discloses that “any one of a variety of mechanisms might be incorporated for selection of a highlighted item in the list...” However, the “highlighted item in the list” disclosed by Kikinis is a name tag and not its associated data value, as recited in claim 21. Col. 4, ll. 7-10. Therefore, claim 21 is allowable for this reason alone. In addition, neither Kikinis nor Light teaches or even suggests, upon finding a match, displaying a list of suggested data values previously stored. Kikinis teaches the matching of field names in a



form with tags to prestored information about the user and filling in all of the fields for which a match is made. Col. 3, line 66-Col. 4, line 1. Kikinis does not show listing data values, much less suggested data values. In Kikinis, the various user information such as name, address, and/or home phone number is associated with a name tag. Col. 3, ll. 58-63. These name tags represent a category or group of data values, such as e-mail address or facsimile number. Col. 3, ll. 58-63; see also Fig. 2. What Kikinis displays is the name tag, not the value corresponding to the tag. Indeed, Kikinis could have two values associated with a single tag and the user would not know which value would be pasted into the corresponding form field. Claim 21 recites listing the actual suggested data values (i.e. the actual name, address, home phone number), and not the group or category, as is the nature of the tags described in Kikinis. See Specification, p. 10, ll. 14-20.

The Office Action further suggests that the name tags, as a collection of data values, are analogous to the data values themselves. Office Action, ¶ 18. However, selection and displaying the tags involves an understanding by the user of what exactly he or she is selecting. That is, the user must guess as to what will be input into the form. By only displaying the name of the category or collection of data values, the user is unaware of the actual data value that may be selected. In addition, the notion that displaying a category tag is synonymous with or even similar to displaying the actual data value is misplaced and is without support. The actual data value provides the user with a more specific understanding of the displayed/suggested data value than that which a broad category tag may offer.

As briefly stated above, two different data values corresponding to the same field may exist in a single category. In such an instance, the difference between displaying the category tag

versus the actual data values becomes much more evident. By listing the data values, the user is aware of all available values. However, with only name tags as a reference, the user may be completely unaware of multiple matching values within a certain name tag, or of spelling variations of multiple suggested values. Kikinis requires two additional steps if the user subsequently learns that the tag corresponded to the wrong value, i.e., the user must first delete the incorrect value and then retype the correct one. Therefore, the selection and display of suggested data values is entirely different from the selection and display of categorical name tags. As such, claim 21 is also allowable for this reason.

Claims 4, 9, 10, 26, 36, 37, and 44 at least recite similar features as claim 21, and are thus allowable for at least the same reasons as claim 21.

Claims 3, 22, and 31

As with claim 21, claims 3, 22 and 31 similarly recite “comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user.” Claims 3, 22, and 31 are allowable for at least the same reasons as claim 21.

Claim 3 further recites, *inter alia*, “detecting a user-initiated action and inhibiting the copying of the suggested data value into the data entry region until after receipt of the user-initiated action.” The Office Action states that Kikinis discloses “any one of a variety of mechanisms might be incorporated for selection of a highlighted item in the list...” However, Kikinis does not teach or suggest *inhibiting* the copying of the suggested data value into the data

entry region until after receipt of the user-initiated action. For example, Kikinis, at col. 3, line 66 – col. 4, line 4, indicates that Kikinis “fills all of the fields for which a match is made.” While Kikinis, at col. 3, lines 63-66, implies waiting for a user-initiated action prior to filling in the form, Kikinis does not actively inhibit activity prior to the user-initiation action, as is recited in the claim. In fact, the present invention addresses a security concern discovered as a result of previous inadequate solutions such as is found in Kikinis. Specifically, as discussed in the present application at p. 11, lines 9-22, and p. 13, lines 19-24, malicious web sites may attempt to execute a script which *mimics* user input. By mimicking user input, the malicious web site prompts the system of Kikinis to fill in form fields and thus provide otherwise personal and/or confidential information (e.g., stored credit card numbers, passwords, etc.) to the malicious web site. It is specifically this security concern that the present invention addresses by actively inhibiting the copying of the suggested data value into the data entry region until after receipt of the user-initiated action, which is not taught or suggested by Kikinis.

Similarly, claims 22 and 31 recite in pertinent part “detecting a keystroke or mouse click from the user and inhibiting the copying of the suggested data value into the data entry region until after receipt of the keystroke or mouse click.” Claims 22 and 31 are thus allowable for at least the same reasons as claim 3.

#### Claims 13 and 40

Claims 13 and 40 are allowable for similar reasons as claim 21. In addition, claims 13 and 40 recite, in pertinent part, “detecting a password field and, upon detecting such a field, forcing the user to select whether a data value for that field will be stored for later use.” The

Office Action states that notice is taken of HTML 4.0 and its form element attribute for specifying a password field so that password characters would be masked when typed into a form field and displayed. However, merely masking characters typed into a field is not that same as or similar to forcing the user to select whether the data value will be saved, nor does it suggest not saving a password value. The referenced HTML 4.0 technology is not relevant to saving or not saving password data values nor is it relevant to forcing the user to make that choice. Furthermore, the Office Action states that one of ordinary skill in the art would have recognized the problem of users not wanting to save a password in a place where it might be accessible for use by other users. However, being cognizant of a particular problem does not make a particular solution obvious. Thus, claims 13 and 40 are allowable for this additional reason.

Claims 14 and 41

Claims 14 and 41 are allowable for at least the same reasons as claim 21. In addition, claims 14 and 41 recite, *inter alia*, “performing numerical processing on the field to determine whether the field represents a credit card number and, in response thereto, suppressing suggestions.” The Office Action admits that Kikinis does not teach such a limitation but takes notice of HTML 4.0 which provides a form element attribute for specifying a password field so that password characters would be masked when typed into a form field and displayed. However, the HTML 4.0 technology does not teach or even suggest providing a form element for a *credit card* number, nor for performing numerical processing on a field to determine whether the field represents a *credit card* number, as recited by claims 14 and 41. Additionally, masking

passwords is not at all similar to suppressing suggestions for a credit card number, as recited by claims 14 and 41. As such, claims 14 and 41 are allowable for these additional reasons.

#### Claim 43

Claim 43 is allowable for at least the same reasons as claim 21. In addition, claim 43 recites, *inter alia*, “detecting a password field and, upon detecting such a field, inhibiting the display of any suggested data values unless the Universal Resource Locator (URL) of the web site from which the form was generated matches a previously stored URL.” The Office Action states that Kikinis does not teach such a limitation and does not indicate that Light teaches or suggests such a limitation. Thus, all of the claim limitations are not taught or suggested by the reference(s). The Office Action relies on the conclusory statement that “one of ordinary skill in the art would have recognized that passwords could have been different from site to site” and provides no particular reason or motivation to arrive at the claimed invention. Indeed, appellants recognize that passwords are often different from site to site, but that is not the problem addressed by these claims. Checking to see if the URL has been previously stored provides additional security by not revealing a password or list of passwords to an unknown web site. Accordingly, Claim 43 is allowable for this reason as well.

#### Claim 54

Claim 54 is allowable for at least the same reasons as claim 21. In addition, claim 54 recites, *inter alia*, “detecting that the one selected field is a password field and, in response thereto, determining whether the user has previously indicated whether a password should be

stored for a URL on which the form resides and, if no such previous indication was made, prompting the user to indicate whether the password field should be stored for that URL.” The Office Action states that Kikinis does not teach such a limitation and does not indicate that Light teaches or suggests such a limitation. Thus, all of the claim limitations are not taught or suggested by the reference(s). The Office Action relies on the conclusory statement that “one of ordinary skill in the art would have recognized that passwords could have been different from site to site” and provides no particular reason or motivation to arrive at the claimed invention. Indeed, appellants recognize that passwords are often different from site to site, but that is not the problem addressed by these claims. Checking to see if the URL has been previously stored provides additional security by not revealing a password or list of passwords to an unknown web site. Accordingly, Claim 54 is allowable for this reason as well.

#### Claims 46, 50 and 52

Claims 46, 50 and 52 are allowable for at least the same reasons as claim 21. In addition, claims 46, 50 and 52 also recite, *inter alia*, “detecting that the one selected field is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the web page.” The examiner states that, while Kikinis does not teach or suggest such a claim limitation, one of ordinary skill in the art “would have recognized that that [sic] user names and passwords are generally associated with each other.” While this may be true, this does not provide the requisite motivation to arrive at “detecting that the one selected field is a username field and, in response to the user selecting a suggested username, automatically copying a

password previously used in response to the selected username into a separate password field on the web page.” The Office Action relies on a conclusory statement and provides no particular reason or motivation to arrive at the claimed invention. Indeed, elsewhere in the office action the examiner recognizes that HTML 4.0 provides a masked form field for passwords, thus preventing their accessibility for use by other users (Office Action, page 7). This teaches away from automatically filling in a password value based on a username in response to input in a field other than the password field. Claims 46, 50, and 52 are thus allowable for this reason as well.

Claims 47, 51 and 53

Claims 47, 51 and 53 are allowable for at least the same reasons as claim 21. In addition, claims 47, 51 and 53 are allowable based on the allowability of their respective base claims, 46, 50 and 52. Even further, claims 47, 51 and 53 are allowable for similar reasons as claim 43, because claims 47, 51 and 53 recite, in pertinent part, “matching a URL associated with the form to a previously stored URL and, in response to a match failure, inhibiting the copying of the password,” which is not taught or suggested by the prior art. The examiner does not address the additional recitations of claims 47 and 53, instead referring to the rejection of claim 43. Appellant thus does not have the ability to substantively respond to the rejection provided in the office action, and claims 47, 51 and 53 should be allowed.

Claims 6, 7, 24, 33, and 34

Claims 6, 24, 33 are allowable for at least the same reasons as claim 21. In addition, claims 6, 24, 33 recite, in pertinent part:

comparing the field identifier of the selected field to a first plurality of dynamically updated historical identifiers previously extracted from a plurality of forms across a plurality of different web sites, and also to a statically created user profile comprising a second plurality of field identifiers having associated data values, and displaying suggested data values taken from both the historical identifiers and from the statically created user profile.

None of the cited references teach or suggest such a feature. The examiner cites to Light for teaching this aspect, but Light merely discloses a database. Contrary to the examiner, Kikinis does not compare a field identifier to a *dynamically updated field identifier* as recited in the claims, and claims 6, 24, and 33 are thus allowable.

Claims 7 and 34 are allowable for at least the same reasons as base claims 6 and 33, respectively.

#### Claims 11, 38

Claims 11 and 38 are allowable for at least the same reasons as claim 21. In addition, claims 11 and 38 recite, in pertinent part, “providing the user with an option to globally disable future storage of field data values.” The examiner alleges that such a feature would have been obvious in view of the disclosure in Light. However, the examiner has misconstrued what Light does, stating that Light teaches disabling storage of field data values on a case-by-case. However, Light does not disable the feature on a case-by-case basis, Light gives the user the option of whether a data value should be stored in a database on a case-by-case basis, which is different from globally disabling storage altogether. Claims 11 and 38 are thus allowable over Kikinis and Light.



***Issue 2***

Claims 5, 23, and 32

Claims 5, 23, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light and further in view of Gupta et al. (U.S. Patent 6,199,079).

Claims 5, 23, and 32 are allowable because, as with *Issue 1*, above, the examiner has not provided a proper motivation or suggestion to combine Kikinis and Light. In addition, the examiner has not provided a proper motivation to combine Gupta with Kikinis, stating only that “a person would have recognized that field identifiers having the same URL were likely to represent the same fields on the same form.” (Office Action of 11/28/03, p. 13). However, the examiner has provided no evidence of the level of knowledge of one of ordinary skill in the art, thus providing the Appellant no substantive opportunity to rebut any such evidence. The examiner has thus failed to provide a *prima facie* case of obviousness due to ineffective combinations of Kikinis and Light, and Kikinis and Gupta.

***Issue 3***

Claims 8, 25, and 35

Claims 8, 25, and 35 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light as applied to claims 7, 21, and 33, and further in view of applicants' specification. Claims 8, 25, and 35 are allowable because, as with *Issue 1*, above, the examiner has not provided a proper motivation or suggestion to combine the references. Even if the references are combined, the combination is deficient for the following reasons.

The examiner states, with respect to claim 25, that Kikinis does not teach or suggest the use of a vCard schema. Instead, the examiner points to the appellants' specification which states that the vCard schema was known at the time of invention. Indeed, this is true. Appellants, in this application, do not mean to suggest that the appellants actually invented the vCard schema. Instead, the appellants assert that, as recited in claim 25, the prior art does not teach or suggest that the Internet web browser performs the step of comparing the field identifier of the selected field to field identifiers in a statically created standard vCard schema, wherein the field identifiers in the vCard schema are mapped to one or more field identifiers in a data store comprising previously used values.

The examiner provides no suggestion outside Appellants' disclosure to combine the references. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." MPEP § 2143.01 (citing *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990)). In addition, "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, *not in the applicant's disclosure*." MPEP § 2143 (citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991)) (emphasis added). The examiner merely states that one of ordinary skill in the art would have recognized the benefit of being able to compare selected field identifiers to field identifiers in a schema conforming to an established standard. Indeed, the examiner provides no evidence of the level of skill in the art, nor does the examiner state what such an alleged benefit might be. The only possible motivation to combine Kikinis with vCard that the examiner points to is Appellants' disclosure itself, which cannot be

used to as a suggestion to combine prior art references. Claims 8 and 35 recite similar features and claim 25. Claims 8, 25, and 35 are thus allowable.

#### ***Issue 4***

Claims 16-17, 19-20, 48-49, and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Light et al. in view of Capps, U.S. Patent No. 5,666,502 to Capps.

With respect to all claims rejected under a combination of Light and Capps, the examiner has not established a *prima facie* case of obviousness because the examiner has not provided a motivation or suggestion to combine the two references. The examiner merely states that it would have been obvious to combine the references because “such a step would have made data readily available without risking the potential inefficiencies of accessing data through a network. Therefore, it would have been obvious to one of ordinary skill in the art to have entered a data value into one of the first plurality of text fields and storing the entered data value into a local storage areas on the user’s computer” (Office Action of 11/28/03, pp. 14-15). However, the examiner’s statement is again that of a result of the combination, not a motivation to combine the references in the first place. In addition, the examiner has not provided any evidence that there are in fact inefficiencies of network storage. Indeed, many companies promote the *efficiency* of network storage (e.g., [www.xdrive.com](http://www.xdrive.com), which was in existence as of the time of filing the application, as evidenced at [www.archive.org](http://www.archive.org) via the following URL from the Internet Archive Wayback Maching: [http://web.archive.org/web/19991127120941/www.xdrive.com/cgi-bin/signup\\_toc.cgi](http://web.archive.org/web/19991127120941/www.xdrive.com/cgi-bin/signup_toc.cgi)). At best, the examiner is making a superfluous argument for which there are equal arguments to negate. The examiner has not identified a motivation or suggestion in the

references themselves, nor within the level of knowledge of one of ordinary skill in the art, to combine the two references. As with the above combination of Kikinis and Light, this is impermissible hindsight reasoning and the examiner has not made out a case of prima facie obviousness. The claims rejected under *Issue 4* are thus allowable.

Deficiencies of the rejection with respect to individual claims even if the references are combined are discussed below.

#### Claim 16, 19

Claim 16 recites, *inter alia*, “detecting that one of the text fields on the second form is correlated with one of the text fields on the first form despite having a different field identifier and, in response thereto, retrieving a corresponding previously stored data value from the local storage area.” The Office Action states that Light et al. teaches the claimed limitation. However, in Light et al., col. 6, lines 61-67, cited in the Office Action, the system is in a learning mode, where it first looks to see if the user entered a previously stored data value manually for a field identifier that has not already been stored in the database, and then updates the database to include the new field identifier. Light et al. does not first detect a correlation between field identifiers and then retrieve a previously stored data value from the local storage area in response thereto. Therefore, Light et al. does not teach or suggest the claimed limitation, and claim 16 is allowable for at least this reason.

Claim 16 also recites, *inter alia*, “suggesting the data value retrieved in step (4) to the user as a possible value to be entered into the second form.” Because Light et al. does not retrieve a data value from local storage as recited in the claim, discussed above, it cannot then

suggest the data value to the user, even if suggested by Capps. There is no data value to suggest, as the user in Light et al. has already entered a data value manually. Thus, all of the claim limitations are not taught or suggested by the prior art references, even if combined, and claim 16 is allowable for this reason as well.

Claim 19 is allowable for at least the same reasons as base claim 16.

#### Claim 17

Claims 17 is allowable based on the allowability of base claim 16. In addition, claim 17 recites, *inter alia*, “step (1) comprises the step of generating the first form from instructions retrieved from a first web site, and wherein step (3) comprises the step of generating the second form from instructions retrieved from a second web site.” However, the examiner merely states that Light teaches “generating a plurality of forms from a plurality of web sites” in rejecting this claim, which does not create a *prima facie* case of obviousness because the prior art does not teach or suggest all the claim limitations.

#### Claim 20

Claim 20 is allowable for at least the same reasons as base claim 16. In addition, claim 20 recites, in pertinent part, “inhibiting the release of the suggested data value until the user has manipulated a user input device.” Claim 20 is thus allowable for similar reasons as claim 3, discussed above.

#### Claim 48

Claim 48 is allowable for at least the same reasons as base claim 16. In addition, claim 48 recites, similar to claim 50, “detecting that one of the text fields on the second form is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the second form.” Claim 48 is thus further allowable for similar reasons as claim 50, discussed above.

#### Claim 49

Claim 49 is allowable for at least the same reasons as base claims 16 and 48. In addition, claim 49 recites, similar to claim 51, “matching a URL associated with the second form to a previously stored URL and, in response to a match failure, inhibiting the copying of the password.” Claim 49 is thus further allowable for similar reasons as claim 51, discussed above.

#### Claim 55

Claim 55 is allowable for at least the same reasons as base claim 16. In addition, claim 55 recites, similar to claim 54, “detecting that the one text field is a password field and, in response thereto, determining whether the user has previously indicated whether a password should be stored for a URL on which the form resides and, if no such previous indication was made, prompting the user to indicate whether the password field should be stored for that URL.” Claim 55 is thus further allowable for similar reasons as claim 54, discussed above.

#### ***Issue 5***

Claim 18

Claim 18 stands rejected under 35 U.S.C § 103(a) as unpatentable over Light et al. in view of Capps as applied to claim 16 above, and further in view of Applicants' specification. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 18 is allowable because, as with the rejections under *Issue 4*, the examiner has not made out a prima facie case of obviousness because there is no motivation to combine Light and Capps. Even if the references are combined, the combination is deficient for the following reasons.

Claim 18 depends on claim 16 and is allowable for at least similar reasons as claim 16. Claim 18 also adds the step of using Bayesian inference techniques. The Office Action concedes that neither Light et al. nor Capps teach using Bayesian inference techniques. Even if Bayesian techniques were known prior to the invention, there is no suggestion to combine or modify the references other than in Applicants' own disclosure. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP § 2143.01 (*citing In re Mills*, 916 F.2d 680 (Fed.Cir 1990)). In addition, "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. MPEP § 2143 (*citing In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991)). Appellants respectfully request the rejection be withdrawn, as it is improper. The Office Action relies on conclusory statements and provides no particular reason or motivation to arrive at the claimed invention, other than Appellants' own application. Accordingly, claim 18 should be allowed.

***Issue 6***

**Claim 45**

Claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikinis in view of Light et al. and further in view of Capps.

Claim 45 is allowable because the examiner has not provided a proper motivation or suggestion to combine Kikinis with Light, as discuss in *Issue 1*, or to combine Light with Capps, as discussed in *Issue 4*, above. In addition, the examiner provides no motivation to combine Kikinis with Capps, instead only stating that “one of ordinary skill in the art would have recognized the not only would it be beneficial to automatically remove items so that the list did not grow too large, but also that sometimes when the list got too large users might want to delete an item other than the most recently used.” (Office Action of 11/29/03, pp. 17-18). The examiner’s alleged motivation is pure speculation, as no evidence has been provided of the level of knowledge of one of ordinary skill in the art. The examiner has thus not established a prima facie case of obviousness, and claim 45 should be allowed.

Claim 45 is further allowable for similar reasons as claim 21.



**CONCLUSION**

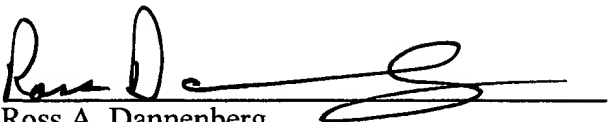
For all of the foregoing reasons, Appellants respectfully submit that the final rejections of claims 3-28 and 31-55 are improper and should be reversed.

Respectfully submitted,

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Dated: April 30, 2004

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## **APPENDIX**

### **CLAIMS INVOLVED IN THE APPEAL**

3. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

further comprising the step of, prior to step (4), detecting a user-initiated action and inhibiting the copying of the suggested data value into the data entry region until after receipt of the user-initiated action.

4. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein step (1) comprises the step of displaying a web page using an Internet web browser; and wherein step (3) is performed in the Internet web browser.

5. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein step (3) comprises the step of comparing the field identifier of the selected field to previously stored field identifiers having the same Universal Resource Locator (URL) and, upon finding a match, displaying suggested data values having the same URL.

6. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein step (3) comprises the step of comparing the field identifier of the selected field to a first plurality of dynamically updated historical identifiers previously extracted from a plurality of forms across a plurality of different web sites, and also to a statically created user profile comprising a second plurality of field identifiers having associated data values, and displaying suggested data values taken from both the historical identifiers and from the statically created user profile.

7. The method of claim 6, wherein step (3) comprises the step of comparing the field identifier of the selected field to a statically created common names data store comprising frequently used field identifiers that are mapped to one or more field identifiers in the user profile.

8. The method of claim 7, further comprising the step of comparing the field identifier of the selected field to field identifiers in a statically created standard vCard schema, wherein the field identifiers in the vCard schema are mapped to one or more field identifiers in the common names data store.

9. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein step (3) comprises the step of displaying a pop-down list of suggestions; and wherein step (4) comprises the steps of navigating through the pop-down list using a computer

input device to select the selected one data value, and removing the pop-down list after the user has made the selection.

10. The method of claim 9, further comprising the step of providing an extendable corner tab that permits the pop-down list to be resized by the user.

11. A computer-implemented method of entering information, comprising the steps of:  
(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

further comprising the step of providing the user with an option to globally disable future storage of field data values.

12. A computer-implemented method of entering information, comprising the steps of:  
(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,  
further comprising the step of providing the user with an option to disable on a field-by-field basis storage of field data values.

13. A computer-implemented method of entering information, comprising the steps of:  
(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;  
(2) determining that a user has selected one of the plurality of fields;  
(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;  
(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and  
(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,  
further comprising the step of detecting a password field and, upon detecting such a field, forcing the user to select whether a data value for that field will be stored for later use.

14. A computer-implemented method of entering information, comprising the steps of:  
(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;  
(2) determining that a user has selected one of the plurality of fields;  
(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;  
(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and  
(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

further comprising the step of performing numerical processing on the field to determine whether the field represents a credit card number and, in response thereto, suppressing suggestions.

15. A computer-implemented method of entering information, comprising the steps of:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein step (3) comprises the step of comparing the field identifier of the selected field to previously stored field identifiers that reside on a web site different from the computer on which the form is displayed.

16. A computer-implemented method of entering information at a user's computer, comprising the steps of:

- (1) displaying on the user's computer a first form comprising a first plurality of text fields each comprising a field identifier and a data entry region into which a data value can be written;
- (2) entering a data value into one of the first plurality of text fields and storing the entered data value into a local storage area on the user's computer;
- (3) displaying on the user's computer a second form comprising a second plurality of text fields each comprising a field identifier and a data entry region into which a data value can be written, wherein the second plurality of text fields comprise field identifiers that are different from those in the first form;

(4) detecting that one of the text fields on the second form is correlated with one of the text fields on the first form despite having a different field identifier and, in response thereto, retrieving a corresponding previously stored data value from the local storage area; and

(5) suggesting the data value retrieved in step (4) to the user as a possible value to be entered into the second form.

17. The computer-implemented method of claim 16, wherein step (1) comprises the step of generating the first form from instructions retrieved from a first web site, and wherein step (3) comprises the step of generating the second form from instructions retrieved from a second web site.

18. The computer-implemented method of claim 16, wherein step (4) comprises the step of using Bayesian inference techniques.

19. The computer-implemented method of claim 16, wherein step (4) comprises the step of retrieving a plurality of previously stored data values and displaying the plurality of previously stored data values to the user in a list.

20. The computer-implemented method of claim 16, further comprising the step of inhibiting the release of the suggested data value until the user has manipulated a user input device.

21. A computer system comprising a processing unit, a memory, a display unit, an interface to a network, and an Internet web browser that performs the steps of:

(1) displaying a web page comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;



(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use.

22. The computer system of claim 21, wherein the Internet web browser performs the step of detecting a keystroke or mouse click from the user and inhibiting the copying of the suggested data value into the data entry region until after receipt of the keystroke or mouse click.

23. The computer system of claim 21, wherein the Internet web browser performs the step of comparing the field identifier of the selected field to previously stored field identifiers having the same Universal Resource Locator (URL) and, upon finding a match, displaying suggested data values having the same URL.

24. The computer system of claim 21, wherein the Internet web browser performs the step of comparing the field identifier of the selected field to a first plurality of dynamically updated historical identifiers previously extracted from a plurality of forms across a plurality of different web sites, and also to a statically created user profile comprising a second plurality of field identifiers having associated data values, and displaying suggested data values taken from both the historical identifiers and from the statically created user profile.

25. The computer system of claim 21, wherein the Internet web browser performs the step of comparing the field identifier of the selected field to field identifiers in a statically created standard vCard schema, wherein the field identifiers in the vCard schema are mapped to one or more field identifiers in a data store comprising previously used values.

26. The computer system of claim 21, wherein the Internet web browser performs the steps of (a) displaying a pop-down list of suggestions through which the user can navigate using a computer input device to select the selected one data value, and (b) removing the pop-down list after the user has made the selection.

27. The computer system of claim 21, wherein the Internet web browser further performs the step of providing the user with an option to disable on a field-by-field basis storage of field data values.

28. The computer system of claim 21, wherein the Internet web browser further performs the step of comparing the field identifier of the selected field to previously stored field identifiers that reside on a web site different from the computer on which the form is displayed.

31. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of, prior to step (4), detecting a keystroke or mouse click from the user and inhibiting the copying of the suggested data value into the data entry region until after receipt of the keystroke or mouse click.

32. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of comparing the field identifier of the selected field to previously stored field identifiers having the same Universal Resource Locator (URL) and, upon finding a match, displaying suggested data values having the same URL.

33. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of comparing the field identifier of the selected field to a first plurality of dynamically updated historical identifiers previously extracted from a plurality of forms across a plurality of different web sites, and also to a statically created user profile comprising a second plurality of field identifiers having associated data values, and displaying suggested data values taken from both the historical identifiers and from the statically created user profile.

34. The computer-readable medium of claim 33, wherein the computer-executable instructions perform the step of comparing the field identifier of the selected field to a statically created common names data store comprising frequently used field identifiers that are mapped to one or more field identifiers in the user profile.

35. The computer-readable medium of claim 34, wherein the computer-executable instructions perform the step of comparing the field identifier of the selected field to field identifiers in a statically created standard vCard schema, wherein the field identifiers in the vCard schema are mapped to one or more field identifiers in the common names data store.

36. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the steps of displaying a pop-down list of suggestions, allowing the user to navigate through the pop-down list using a computer input device to select the selected one data value, and removing the pop-down list after the user has made the selection.

37. The computer-readable medium of claim 36, wherein the computer-executable instructions perform the step of providing an extendable corner tab that permits the pop-down list to be resized by the user.

38. A computer-readable medium having computer-executable instructions for performing steps comprising:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
- (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of providing the user with an option to globally disable future storage of field data values.

39. A computer-readable medium having computer-executable instructions for performing steps comprising:

- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
- (2) determining that a user has selected one of the plurality of fields;
- (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
- (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of providing the user with an option to disable on a field-by-field basis storage of field data values.

40. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of detecting a password field and, upon detecting such a field, forcing the user to select whether a data value for that field will be stored for later use.

41. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of performing numerical processing on the field to determine whether the field represents a valid credit card number and, in response thereto, inhibiting suggestions for the field.

42. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of comparing the field identifier of the selected field to previously stored field identifiers that reside on a web site different from the computer on which the form is displayed.

43. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions perform the step of detecting a password field and, upon detecting such a field, inhibiting the display of any suggested data values unless the Universal Resource Locator (URL) of the web site from which the form was generated matches a previously stored URL.

44. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions comprise an Internet web browser that displays web pages and provides web navigation functions.

45. A computer-readable medium having computer-executable instructions for performing steps comprising:



- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
  - (2) determining that a user has selected one of the plurality of fields;
  - (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
  - (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
  - (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,
- wherein the computer-executable instructions permit the user to delete one of the previously stored suggested data values.

46. A computer-implemented method of entering information, comprising the steps of:
- (1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;
  - (2) determining that a user has selected one of the plurality of fields;
  - (3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;
  - (4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and
  - (5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,
- further comprising the step of detecting that the one selected field is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the form.

47. The method of claim 46, further comprising the step of matching a URL associated with the form to a previously stored URL and, in response to a match failure, inhibiting the copying of the password.

48. The method of claim 16, further comprising the step of detecting that one of the text fields on the second form is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the second form.

49. The method of claim 48, further comprising the step of matching a URL associated with the second form to a previously stored URL and, in response to a match failure, inhibiting the copying of the password.

50. The computer system of claim 21, wherein the Internet web browser further performs the step of detecting that the one selected field is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the web page.

51. The computer system of claim 50, wherein the Internet web browser further performs the step of matching a URL associated with the web page to a previously stored URL and, in response to a match failure, inhibiting the copying of the password.

52. A computer-readable medium having computer-executable instructions for performing steps comprising:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

wherein the computer-executable instructions further perform the step of detecting that the one selected field is a username field and, in response to the user selecting a suggested username, automatically copying a password previously used in response to the selected username into a separate password field on the form.

53. The computer-readable medium of claim 52, wherein the computer-executable instructions further perform the step of matching a URL associated with the form to a previously stored URL and, in response to a match failure, inhibiting the copying of the password.

54. A computer-implemented method of entering information, comprising the steps of:

(1) displaying on a computer screen a form comprising a plurality of fields, each field having a field identifier and a data entry region into which a data value can be written;

(2) determining that a user has selected one of the plurality of fields;

(3) comparing the field identifier of the selected field to previously stored field identifiers and, upon finding a match, displaying a list of suggested data values previously stored in response to one or more different forms previously filled in by the user;

(4) in response to the user selecting one of the suggested data values, copying the selected one data value into the data entry region of the selected field; and

(5) in response to the user entering a non-suggested data value, storing the non-suggested data value into a data storage area for future use,

further comprising the step of detecting that the one selected field is a password field and, in response thereto, determining whether the user has previously indicated whether a password should be stored for a URL on which the form resides and, if no such previous indication was made, prompting the user to indicate whether the password field should be stored for that URL.

55. The method of claim 16, wherein step (2) comprises the step of detecting that the one text field is a password field and, in response thereto, determining whether the user has previously indicated whether a password should be stored for a URL on which the form resides and, if no such previous indication was made, prompting the user to indicate whether the password field should be stored for that URL.